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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,065	07/28/2003	James R. Cole	200208981-1	5842
7590 07/22/2004				
HEWLETT-PACKARD COMPANY Intellectual Property Administration P.O. Box 272400 Fort Collins, CO 80527-2400			EXAMINER SEVER, ANDREW T	
			ART UNIT 2851	PAPER NUMBER

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/629,065	<b>Applicant(s)</b> COLE ET AL.	
	<b>Examiner</b> Andrew T Sever	<b>Art Unit</b> 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the computer system integrated into the digital projector including a central processing unit, random access memory, mass storage, and access to an external network must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claim 28 is objected to because of the following informalities: grammar. Appropriate correction is required.

Claim 28 is missing an article, it is believed it should read: "integrated into the digital projector". As currently written the claim is confusing as to where specifically the CPU, RAM, mass storage, and network connection are located. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5-12, 14-19, 23-27, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al. (US 6,702,444.)

Takizawa teaches in column 13 and 14 a method of controlling a digital projector, comprising:

Receiving a request to turn on the digital projector (see lines 18-22 of column 13 where its taught that the standby period begins when the projector is powered on, which would be a turn on request);

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Receiving temperature data associated with a light source from a temperature sensor (the various fan speed setting as well as the light ignition are taught to be based on temperature readings taken from a temperature sensor 410 see line 46 of column 13);

Comparing the temperature data to a predetermined threshold (there are taught numerous predetermined thresholds);

Turning on a cooling device if the temperature data is above the predetermined threshold and if a turn-on request has been received (the fans are rotated if a turn-on request is received); and

Turning on the light source if the temperature data is at or below the predetermined threshold (the light source has a threshold of T7 or T8 as taught at line 82 of column 13, which is where the light source is extinguished or obviously if it is not already lit and the temperature is already at the threshold, then it would not be lit) and if a turn-on request has been received.

*With regards to applicant's claim 2:*

Takizawa's method is for a video projector

*With regards to applicant's claims 5 and 6:*

It is well known and obvious that an on/off switch to be provided or that a turn-on request be received from a remote control (Takizawa teaches a remote control in column 4 lines 15-23.)

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*With regards to applicant's claims 7 and 8:*

The sensor is taught in column 13 lines 33-44 to be in the vicinity of the light-source lamp unit and the internal environment of the digital projector.

*With regards to applicant's claims 9-12 and 16:*

Takizawa teaches in column 11 lines 24-41 a method for turning of the lamp and fans when a predetermined state occurs (in the case of column 11 lines 24-41, it is when the light source temperature becomes to high, however it would be obvious to one of ordinary skill in the art to also use this method in the case that a user pushes an "off" button, given that temperature and cool down would be even less critical, then what is described in column 11 lines 24-41 which is an overheat state. Takizawa teaches that when the state occurs the light source is deactivated and the fans are spun for a predetermined time frame and are then also deactivated. Since Takizawa teaches that the fans are spun for a predetermined time frame and does not teach any additional temperature readings, it is obvious that the turning off of the cooling device is in response to the request and within a time frame without consideration of the light-source temperature. (The light-source temperature was only the pre-condition for activating the shutdown command instead of a user command, Takizawa clearly teaches that once that procedure has begun that the temperature is not taken into consideration.)

*With regards to applicant's claims 14 and 15:*

See above with regards to applicant's claims: 5 and 6,

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*With regards to applicant's claim 17-19 and 23-27:*

Takizawa further teaches the method as part of a light source control apparatus

*With regards to applicant's claims 29-32:*

The means and computer program are obvious given the teaching of the apparatus and method of Takizawa.

5. Claims 3, 4, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa as applied to claims 1, 2, 5-12, 14-19, 23-27, and 29-32 above, and further in view of Arimoto et al. (US 6,597,118.)

As described in more detail above, Takizawa teaches a method and corresponding apparatus for controlling a digital projector. The method and apparatus comprises of receiving a request to turn on the projector, receiving temperature data from a temperature sensor which is in proximity to the light source. The temperature data is compared to a predetermined threshold and a cooling device is turned on if the temperature data is above the predetermined threshold and if a turn-on request has been received. Further the light source is turned on if the temperature data is at or below the predetermined threshold and if a turn-on request has been received.

Takizawa, however does not teach that the light-source is a mercury vapor lamp, nor that the threshold is the boiling point of mercury. However, as taught by Arimoto increasingly high-pressure mercury lamps are commonly used in projection devices (see column 1 lines 15-23.) Arimoto further teaches that it is desirous for both long life and

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achieving a bright light, to ignite the lamp as close to the boiling point as possible, accordingly the threshold temperature is set at the boiling point (see column 2 lines 58-66.) Given the teachings Arimoto, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a mercury lamp and make the boiling point of the mercury the threshold in the method and associated apparatus taught by Takizawa.

6. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa as applied to claims 1, 2, 5-12, 14-19, 23-27, and 29-32 above, and further in view of Goodwin (US 6,345,238.)

As described in more detail above, Takizawa teaches a method and corresponding apparatus for controlling a digital projector. The method and apparatus comprises of receiving a request to turn on the projector, receiving temperature data from a temperature sensor which is in proximity to the light source. The temperature data is compared to a predetermined threshold and a cooling device is turned on if the temperature data is above the predetermined threshold and if a turn-on request has been received. Further the light source is turned on if the temperature data is at or below the predetermined threshold and if a turn-on request has been received.

Takizawa does not teach specifically what form the temperature sensor takes, however it is well known in the electronics arts that temperature sensors, especially in high temperature environments (such as found near a high-pressure mercury arc lamp) take the form of resistive sensors and silicon PN-junction sensors as taught by Goodwin



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in columns 2-4 with PN-junction discussed at lines 55-63 of column 4. Accordingly given that Goodwin teaches that resistive sensors are good over a wide range of high temperatures and require little calibration, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used on for the temperature sensor taught by Takizawa.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa as applied to claims 1, 2, 5-12, 14-19, 23-27, and 29-32 above, and further in view of Derryberry (US 6,626,543.)

As described in more detail above, Takizawa teaches a method and corresponding apparatus for controlling a digital projector. The method and apparatus comprises of receiving a request to turn on the projector, receiving temperature data from a temperature sensor which is in proximity to the light source. The temperature data is compared to a predetermined threshold and a cooling device is turned on if the temperature data is above the predetermined threshold and if a turn-on request has been received. Further the light source is turned on if the temperature data is at or below the predetermined threshold and if a turn-on request has been received.

Takizawa, however does not teach a projector comprising a central processing unit, random access memory, mass storage, and access to an external network.

Derryberry teaches a projector having integrated computer capabilities built into the projector, so that no external computing device is required, allowing easier transport and

set up (see column 2 lines 8-26.) Derryberry teaches in column 3 lines 40-65 that the projection device includes, a central processing unit, random access memory (it is well known that micro-processing capabilities able to run applications such as Microsoft PowerPoint, Word and Excel would require both RAM and a CPU), mass storage (CD ROM, DVD drives), and access to an external network (wireless technology as well as telephone connectivity). Accordingly given that Derryberry teaches that the portable projector having all of these systems incorporated within it is much easier used and set-up it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Derryberry's portable system with control system of Takizawa.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,472,828 to Pruett et al. teaches a fan driving and lamp igniting system based on a timer as well as a temperature sensor (See for example figure 4)

US 2003/0216882 to Lai et al. teaches using a temperature reading to control fan speeds. (See figure 7 for example.)

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US 6,698,898 to Terami et al. teaches a projector having a fan and lamp power supply circuit commonly controlled by a microcomputer, in figure 1, with a method of controlling them starting in figure 2.


US 2002/0030794 to Hosoda et al. teaches a fan controlled by a temperature sensor in figure 2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



**David Gray**  
Primary Examiner